Remarks

Reconsideration of this Application is respectfully requested.

Claims 1, 2 and 4-11 are pending in the application, with claims 1, 8 and 11 being the independent claims.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "**Version With Markings To Show Changes Made.**"

Based on the above Amendment and the following Remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Acknowledgement of Allowed Subject Matter

The indication that claims 2, 4-7, 10 and 11 contain allowable subject matter is gratefully noted.

Rejections under 35 U.S.C. § 112

Claim 11 has been amended to overcome the rejection under 35 U.S.C. §112, second paragraph.

Rejections under 35 U.S.C. § 103

Claims 1, 8 and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Orihara in view of Stephan and King. Reconsideration is respectfully requested.

Orihara is the only reference cited by the Examiner relating to a cigarette machine distributor, as in the present invention. However, Orihara in particular describes the state of the technology from which the present invention originates, but includes the problems overcome by the present invention. Orihara describes a flow bed arrangement in which the nozzle outlets (40, 42 in Figure 3) form stages in the guide surface. In contrast to our invention, the guide surface in Orihara is not "based on a uniform curve." These stages, which respectively represent a discontinuity in the guide surface and the air nozzles that discharge at these stages, are clearly shown and described in connection with Figure 6 of the Orihara reference. In practical operations and owing to this design, the tobacco fibers conveyed along the guide surface are not picked up by the airflow coming from the nozzles until approximately 25 to 30 millimeters behind the nozzles where the air speed in conveying direction and thus also the effectiveness of the airflow are considerably reduced.

In contrast to the Orihara reference, the flow bed arrangement according to the present invention has a guide with a generatrix that "is based on a uniform curve," which does not exhibit the discontinuities or stages shown for the guide surface according to Orihara. As shown in Figure 3 of the present application, the downstream limiting surface of this design is convex and

gradually changes to the concave course of the guide surface, such that a Coanda flow can form and the advantage described in paragraph 2 on page 5 of the original specification is achieved. In other words, the tobacco flow conveyed on the guide surface is picked up directly at the location where the air is discharged at the nozzles and still has the highest speed and can thus accelerate and convey the tobacco with maximum effectiveness. The known prior art does not contain any reference indicating that this design of the flow bed and the nozzles discharging into the flow bed is particularly advantageous for generating a uniformly distributed, optimized tobacco flow and its effective movement along the gliding surface.

The recited design does not follow either directly from Orihara, in lines 36-44 in column 12, to which the rejection expressly refers, or from Stephan, from lines 23 - 32 in column 3, which the rejection also refers.

Orihara deals with specific measures for improving the creation of the tobacco rope in the tobacco channel of a cigarette rope-forming machine. According to Orihara, the tobacco is conveyed at a slant along the guide surface in the flow bed of the distributor, in tobacco-rope conveying direction, by generating a slanted airflow in the distributor. Thus, the text passage cited by the rejection, lines 32 to 44 in column 12 in Orihara, simply shows that the tobacco supplied with a slanted conveying component forms a layer with uniform thickness on the suction belt in the tobacco channel, which results in a uniform density for the cigarette rope that is produced. This has nothing to do with claim 1. Moreover, a person skilled in the art cannot arrive at the present invention on the basis of Orihara because it is not possible to arrive at the

usefulness and advantages of a flow-bed design according to the present invention based on the disclosure in Orihara. Orihara would not stimulate the person skilled in the art at all to consider an improvement in the flow-bed design according to our invention.

The disclosure in Stephan does not overcome the deficiency in Orihara. Stephan deals with the conveying of paper sheets along a conveying track. It is initially argued that this is non-analogous art and should not be available to be combined with Orihara. Tobacco conveying is too disparate an art from paper conveying and the two arts do not encounter the same type of problems. The conveying of paper sheets along a horizontal conveying track does not allow conclusions to be drawn as to conveying and uniform spreading of a tobacco-fiber flow along a sliding surface that changes concave from the horizontal to the vertical direction, as is required for the distributor of a cigarette rope machine. With the device according to Stephan, the air stream leaves the nozzles in the bottom of the conveying channel at a steep angle. This stream is directed at a steep angle against the underside of the sheets to be conveyed, wherein the vertical component of the stream direction is larger than the horizontal one (lines 59-64 in column 1). In other words, the stream exit angle exceeds 45° (lines 20-22 in column 2). As a result, the vacuum zone at the edge of the nozzle becomes negligibly small (lines 25-29 in column 2). Thus, the flow along the wall and the Coanda effect are expressly prevented (lines 18-21 in column 3). Stephan consequently veers away from the present invention by stating that a Coanda flow hinders the movement of the goods to be conveyed, paper sheets in this case (lines 30-38 in column 1).

King also does not overcome the deficiencies. King describes a device for drying reconstituted tobacco, which is conveyed in the form of a wet mass on a horizontal conveyor belt. Steam rising from the heated tobacco mass is removed with a lateral airflow, which moves closely along the uneven surface of the wet tobacco mass because of the Coanda effect (lines 26-37 in column 7). However, this hardly follows from the exemplary embodiments shown.

It is also noted that King does not involve the same type of art as Orihara and Stephens. Totally different flow conditions exist in the drying device by King as compared to a flow-bed distributor of a cigarette rope machine according to the invention. Thus, the tobacco in the device according to King is not conveyed pneumatically and does not slide along a guide surface with concave curvature in conveying direction, which changes from the horizontal direction to the vertical direction and is provided with air discharge nozzles for forming a flow close to the wall. This teaching also does not follow when viewing Orihara and/or Stephan in combination with King.

Most importantly, even though King suspects that his device utilizes a Coanda effect is on the surface of the tobacco mass, King does not mention the possibility that a wall flow based on the Coanda effect could be generated on the guide surface of a distributor, as in the present application, and that this wall flow distributed the tobacco in the distributor with particular effectiveness. Nor does King suggest that a Coanda effect could be utilized on the devices of Stephans and Orihara.

On this point of the Coanda effect in the previous Amendment, it appears that the

Examiner did not fully consider Applicant's arguments concerning Stephens and the Coanda effect. The Examiner notes in the "Response to Arguments" that the claims do not recite "intentionally creating vacuum zones" and that the air stream and correspondingly the tobacco particles are "not accelerated." However, these are conditions inherent in the recitation of the Coanda effect in claim 1. The vacuum zones are necessary to allow the air streams to reattach to the sliding surface.

Concerning King, cited for teaching the Coanda effect, the Action states: "As disclosed by King, the Coanda effect is a natural phenomena of the reatttachement of fluid jets to smooth boundary surfaces (Column 7, lines 32-37). The surface of the guide is assumed to be smooth in order to provide a uniform conveying air jet and thus a Conada Effect would occur on the guide track." Accordingly, the Action seems to suggest that King discloses that all fluid jets conveyed over smooth surfaces would achieve the Coanda effect. King does not, in fact, suggest this, nor is this scientifically true. King, column 7, lines 32-37, actually states: "In essence, the Coanda effect is the phenomena of the reattachment of fluid jets, such as high-velocity air streams, to smooth boundary surfaces, in which the flow of air will curl around an obstruction and attempt to adhere thereto." King does not state that this is the case will all fluid jets and all smooth boundary surfaces, and does not suggest the exact geometrical configurations for this to occur.

Even if King arguably does teach this feature, as noted above, Stephans explicitly teaches away from a configuration utilizing the Coanda effect. (vacuum zones, high vertical velocity component of the air jet, etc.)

It is therefore submitted that the rejection of independent claims 1 and 8 on the basis of the present prior art is not justified.

Claim 8 further distinguishes over Orihara by specifying that the guide track has a sliding surface extending from the tobacco inlet to the tobacco outlet and is interrupted by the nozzle. Reciting a sliding surface formed by a generatrix distinguishes over the entire sliding surface of Orihara (element 38) and reciting that the sliding surface is interrupted by nozzles distinguishes over the single section of Orihara (element 38a).

Claim 9 depends from claim 8 and is allowable as depending from an allowable claim. Claim 9 further distinguishes over Orihara by reciting that the guide track is made up of discrete guide track elements. The Examiner argues that the guide track pin 66 and guide track cylinder 67 also constitute "discrete guide track elements" to read on the claim. It is respectfully submitted that the pin 66 and cylinder 67 are not guide track elements and the Examiner's interpretation of the claims term is unreasonably broad and improper.

A complete response to the present Amendment is respectfully requested. Even if the Examiner does not agree with the Applicant's arguments, a full Examiner's response will help crystallize the issues for Appeal.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

A Notice of Allowance with claims 1, 2 and 4-11 is respectfully requested.

Respectfully submitted,

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Version With Markings To Show Changes Made

In the Claims:

11. (Amended) A device for creating a spread-out stream of tobacco fibers, comprising:

a concave-curved guide track along which the fiber stream of tobacco fibers are conveyed, the guide track having a generatrix based on a uniform curve, a portion of the concave-curved guide track being formed by a convex sliding surface, the guide track having a width; and

at least one air nozzle having an air flow opening interrupting the guide track so that air existing the nozzle acts in a conveyance direction of the fiber stream for spreading out the tobacco fibers, wherein the nozzle has a downstream wall, in relation to the conveyance direction of the fiber stream, which makes a transition into [the concave sliding surface of] the guide track in a steady convex curvature, the at least one nozzle terminating in the sliding surface and extending continuously over the width of the guide track.